REMARKS

This Response is submitted in reply to the final Office Action mailed on May 29, 2009. No fee is due in connection with this Response. The Director is authorized to charge any fees which may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 112701-915 on the account statement.

Claims 1, 3 and 5-24 are pending in this application. Claims 2 and 4 were previously canceled without prejudice or disclaimer. In the Office Action, Claims 6-16 are rejected under 35 U.S.C. §112. Claims 1, 3 and 5-24 are rejected under 35 U.S.C. §103. For at least the reasons set forth below, Applicants respectfully submit that the rejections should be withdrawn.

In the Office Action, Claims 6-16 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. The Patent Office asserts that the phrase "substantially incompressible" is indefinite because it is unclear what qualifies as "substantially incompressible." See, Office Action, page 2, lines 12-20. However, Applicants respectfully note that the phrase "substantially incompressible" was removed from Claim 6 by amendment in response to the previous Office Action. As such, Applicants respectfully submit that Claims 6-16 are not indefinite.

Accordingly, Applicants respectfully request that the rejection of Claims 6-16 under 35 U.S.C. §112, second paragraph, be withdrawn.

In the Office Action, Claims 1, 3, 5-11, 13-19 and 21-24 are rejected under 35 U.S.C. §103(a) as being unpatentable over Japanese Patent Publication No. 2001-122237 to Hideaki et al. ("*Hideaki*") in view of U.S. Patent No. 5,614,148 to Beck et al. ("*Beck*") with evidentiary support from U.S. Patent Publication No. 2003/0031814 A1 to Hutchinson et al. ("*Hutchinson*"). For at least the reasons set forth below, Applicants respectfully submit that, even if combinable, the cited references fail to disclose or suggest each and every element of independent Claims 1 and 6 and Claims 3, 5, 7-11, 13-19 and 21-24 that depend therefrom.

Independent Claims 1 and 6 recite, in part, a container comprising a body formed by walls and a bottom, the body having as its greatest diameter a dimension d_1 and a neck with an internal diameter d_2, said container being made from a semi-crystalline PET, the body of said container comprising at its bottom at least three feet spaced from each other and being integral with said body, wherein the ratio weight of the walls to the weight of the bottom is between 3

and 4 and the ratio volume, in ml, of the body of the container per gram of PET of the body is between 80 and 120, and wherein: the walls of the body have a thickness of less than 100 μm; the part of the bottom between the feet has a thickness between 100 and 200 μm; and each foot has a thickness between 50 and 150 μm.

Conventional beverage containers have attempted to reduce the amount of plastic material used simply by reducing the weight of the bottom part. See, Specification, page 1, paragraph 2, lines 3-4. However, prior art solutions such as petaloid bottoms are still too thick and use too much plastic material for the volume of product held by the container. See, Specification, page 1, paragraph 2, lines 8-14. Therefore, the present claims provide a container made from a semi-crystalline PET, the body of said container comprising at its bottom at least three feet spaced from each other and being integral with said body, wherein the ratio weight of the walls to the weight of the bottom is between 3 and 4 and the ratio volume, in ml, of the body of the container per gram of PET of the body is between 80 and 120, and wherein: the walls of the body have a thickness of less than 100 μm; the part of the bottom between the feet has a thickness between 100 and 200 μm; and each foot has a thickness between 50 and 150 μm. The claimed design results in a reduction of nearly 50% in the amount of material required per volume of product as compared with prior art containers. See, Specification, page 4, paragraph 43. In contrast, the cited references are deficient with respect to the present claims.

For example, even if combinable, the cited references fail to disclose or suggest a container wherein the ratio weight of the walls to the weight of the bottom is between 3 and 4 as required, in part, by independent Claims 1 and 6. The Patent Office admits that *Hideaki* fails to disclose a weight ratio of the walls to the bottom in the claimed range but nevertheless asserts that one of ordinary skill in the art would merely "have optimized the weight of the wall portion of the container to the bottom portion of the container as part of the general design process for determining the shape and wall thickness of various parts of the container." See, Office Action, page 6, lines 1-6. However, the Patent Office fails to explain how one skilled in the art would have optimized the weight ratio of the walls to the bottom of the container, and the cited references fail to suggest such optimization. Applicants respectfully submit that one of ordinary skill in the art would understand that optimization of the weight of the bottle is the entire goal of this art, and such optimization cannot be achieved as a matter of routine experimentation merely by reducing the thicknesses of the wall or bottom portions.

In fact, the cited reference of *Beck* demonstrates that optimizing the weight ratio of the walls to the bottom of a plastic beverage container would not have been a matter of mere routine experimentation to one skilled in the art. Table 1 of *Beck* compares the overall bottle size and weight, as well as the thickness of specific wall portions of prior art bottles with its bottle. See, *Beck*, column 6, lines 64-67. The base weight of *Beck*, 13.5g, is less than two of the prior art bottles. See, *Beck*, Table 1. However, in comparing its reduced-weight bottle to another prior art bottle, *Beck* teaches that the prior art preform, although having the same base weight, did not provide adequate structural strength because its thickness D2 at a specific point on the bottom was too thin. See, *Beck*, column 7, lines 16-20. Thus, *Beck* expressly states that "without the redistribution of the material and the reinforcing ring of the present invention, merely reducing weight is insufficient to obtain a structurally sound bottle." See, *Beck*, column 7, lines 21-23. As such, *Beck* discloses that merely decreasing the weight of the bottom portion of the bottle and thus altering the weight ratio of the walls to the bottom is an inadequate technique for obtaining a reduced-weight bottle without also redesigning the bottle. See, *Beck*, column 7, lines 24-45.

Furthermore, Applicants respectfully submit that optimizing the weight ratio of the walls to the bottom would not have been obvious to one skilled in the art because the cited references do not recognize such weight ratio as a result-effective variable. "A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation." See, M.P.E.P. § 2144.05(B) (2009). *Hideaki* is entirely directed to a bottle having ultra-thin walls in the barrel part so that the walls can be pushed into the shoulder part at the time of disposal and thereby allow for a larger amount of bottles to be transported and stockpiled for recycling. See, *Hideaki*, page 1, paragraphs 2-3; page 2, paragraphs 5 and 7. *Beck* is entirely directed to a petaloid design for the base or bottom of a bottle and fails to even discuss the thickness of the walls of the bottle. See, *Beck*, column 1, lines 5-17; column 3, lines 15-25. Nowhere do *Hideaki* or *Beck* disclose that the ratio of the weight of the walls to the weight of the bottom portion of the bottle achieves any particular result. Thus, Applicants respectfully submit that one skilled in the art would have no reason to modify or optimize the weight ratio of the walls to the bottom portion of either *Hideaki* or *Beck* to arrive at the present claims.

Moreover, even if combinable, the cited references fail to disclose or suggest a container wherein the ratio volume, in ml, of the body of the container per gram of PET of the body is between 80 and 120 as recited, in part, by Claims 1 and 6. The Patent Office admits that *Hideaki* fails to disclose that its volume per gram of PET ratio is within the claimed range but nevertheless asserts that one of ordinary skill in the art would "optimize" such ratio merely because *Hideaki* discloses a trend toward using less resin to achieve equivalent volume containment and has substantially similar wall thicknesses. See, Office Action, page 5, lines 15-21. However, Applicants respectfully submit that even if the wall thicknesses of *Hideaki* are similar to those of the present claims, the weight of the PET for a given volume varies depending on the crystallinity of the PET. See, Specification, page 3, paragraph 36, Density/Crystallinity Table. Nowhere does *Hideaki* disclose or suggest the level of crystallinity of its PET. Furthermore, although the Patent Office relies on *Hutchinson* for the disclosure of semi-crystalline PET being conventionally used in bottles, even if semi-crystalline PET were used, nowhere does *Hutchinson* disclose a specific crystallinity level. See, Office Action, page 6, lines 7-10; *Hutchinson*, page 1, paragraphs 6-9. As such, even if the walls of *Hideaki* have similar thicknesses to those of the present claims and use semi-crystalline PET, the density of the bottle is unknown and not necessarily within the claimed range. Thus, the cited references fail to disclose a container wherein the ratio volume, in ml, of the body of the container per gram of PET of the body is between 80 and 120 as required, in part, by the present claims.

Applicants also respectfully submit that obtaining the claimed ratio would not have been obvious as a matter of mere routine experimentation or optimization to one of ordinary skill in the art. As discussed previously, *Beck* specifically acknowledges that simply decreasing the weight of the bottom portion of the bottle without also redesigning the bottle is an inadequate method for achieving a reduced-weight bottle with sufficient structural integrity. See, *Beck*, column 7, lines 24-45. Furthermore, although *Hideaki* recognizes that it is desirable to use less resin to achieve equivalent volume containment, *Hideaki* acknowledges that the container cannot be made too thin or light because it must be able to support the load applied to it ("Since the bottom part 4 will have the load of the content applied to it, its walls should preferably be thicker than the walls of the barrel part 3"). See, *Hideaki*, page 6, paragraph 10, lines 3-5. Therefore, Applicants respectfully submit that the cited references fail to disclose or render obvious the claimed ratio of the volume of the body per gram of PET of the body.

Furthermore, even if combinable, the cited references fail to disclose or suggest a container wherein the part of the bottom between the feet has a thickness between 100 and 200 μm and each foot has a thickness between 50 and 150 μm as recited, in part, by Claims 1 and 6. The Patent Office admits that *Hideaki* fails to disclose a thickened bottom portion as claimed but nevertheless asserts that one of ordinary skill in the art would have increased the bottom thickness to within the claimed range merely because *Hideaki* shows that the shoulder part has an increased thickness for structural stability. See, Office Action, page 4, lines 18-22; page 5, lines 1-14. However, contrary to the Patent Office's assertion, *Hideaki* does not teach that its shoulder part has an increased thickness to provided added structural support but rather so that the ultra-thin walls may be pushed into the shoulder part at the time of disposal and thereby allow for a larger amount of bottles to be transported and stockpiled for recycling. See, *Hideaki*, page 1, paragraphs 2-3; page 2, paragraphs 5 and 7. Furthermore, the shoulder part of *Hideaki* has a thickness between 200 and 500 μm. See, *Hideaki*, page 5, paragraph 10. Therefore, even if one skilled in the art were attempting to provide added structural support to the bottom of *Hideaki* as suggested by the Patent Office, *Hideaki* suggests a thickness between 200 and 500 μm, rather than the claimed 100-200 μm range. As such, *Hideaki* fails to suggest providing a bottom portion having the claimed thicknesses to one of ordinary skill in the art.

Moreover, one of ordinary skill in the art would have no reason to adjust the thicknesses of the various portions of the bottom of *Beck* to within the claimed thickness ranges. For example, *Beck* discloses that the thickness "A" between its feet is between 0.060 and 0.087 inches (1,524 to 2,210 μm). See, *Beck*, column 7, lines 33-34. This thickness is much greater than the 100 to 200 μm claimed range. *Beck* also discloses that more material is provided in its feet such that the thickness of its feet is between 0.008 and 0.14 inches (203 to 3,556 μm). See, *Beck*, column 7, lines 29-32. These values are both substantially greater than the claimed thickness ranges. In addition, *Beck* teaches that "without the redistribution of the material and the reinforcing ring of the present invention, merely reducing weight is insufficient to obtain a structurally sound bottle." See, *Beck*, column 7, lines 21-23. Therefore, one skilled in the art would have no reason to merely reduce the thicknesses of the feet of *Beck* to arrive at the claimed thickness values. As such, the cited references fail to disclose or a container wherein the part of the bottom between the feet has a thickness between 100 and 200 μm and each foot has a thickness between 50 and 150 μm as required, in part, by the present claims.

In response to Applicants' previous arguments, the Patent Office asserts that the degree of crystallinity is not recited in the present claims, and it is not clear that a specific level of crystallinity is required to achieve the presently claimed limitations. See, Office Action, page 8, lines 21-22; page 9, line 1. However, Applicants respectfully submit that the Patent Office misinterprets the arguments regarding level of crystallinity. Applicants do not allege that a specific level of crystallinity, as long as the PET is semi-crystalline, is required to achieve the desired thicknesses. Instead, Applicants note that because *Hideaki* and *Hutchinson* fail to teach or suggest a specific level of crystallinity, one of ordinary skill in the art cannot determine the density and, thus, the amount of PET used to make the container of *Hideaki*, even if the wall thickness is known.

Applicants also respectfully request that the Patent Office reconsider the arguments set forth in the response to the previous Office Action. The combination of references proposed by the Patent Office appears to be improper hindsight reconstruction of the present claims. The Federal Circuit has held that it is "impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious." *In re Fritch*, 23 U.S.P.Q.2d 1780, 1784 (Fed. Cir. 1992). "One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). The Patent Office admits that the cited references fail to disclose several of the claimed structural limitations but simply asserts that such design limitations would be a matter of mere routine optimization to one of ordinary skill in the art. See, Office Action, page 9, lines 1-3. However, as discussed previously, a primary goal in this art is to simultaneously reduce the weight of plastic used and maintain the structural integrity of the beverage bottle. Yet one skilled in the art would understand, as evidenced by *Beck* and *Hideaki*, that this goal cannot be achieved by mere "optimization" or reduction of wall thicknesses without redesigning or redistributing the plastic material because mere reduction of weight can compromise the structural integrity of the bottle. See, *Beck*, column 7, lines 21-23; *Hideaki*, page 6, paragraph 10, lines 3-5.

Accordingly, Applicants respectfully request that the rejection of Claims 1, 3, 5-11, 13-19 and 20-24 under 35 U.S.C. §103(a) to *Hideaki*, *Beck* and *Hutchinson* be withdrawn.

In the Office Action, Claims 12 and 20 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Hideaki* in view of *Beck* with evidentiary support from *Hutchinson* and further in view of U.S. Patent Publication No. 2002/0185212 A1 to Schaupp et al. ("*Schaupp*"). Applicants respectfully submit that, even if combinable, the cited references fail to disclose or suggest each and every element of Claims 12 and 20.

As discussed previously, *Hideaki*, *Beck* and *Hutchinson* fail to disclose or suggest a container wherein: (1) the ratio weight of the walls to the weight of the bottom is between 3 and 4; (2) the ratio volume, in ml, of the body of the container per gram of PET of the body is between 80 and 120; (3) the part of the bottom between the feet has a thickness between 100 and 200 μm; and (4) each foot has a thickness between 50 and 150 μm as required, in part, by independent Claims 1 and 6 from which Claims 12 and 20 depend. The Patent Office relies on *Schaupp* merely as support for pad printed images on the outside of the container. See, Office Action, page 7, lines 19-22; page 8, lines 1-3. Thus, Applicants respectfully submit that, even if properly combinable, *Schaupp* fails to remedy the deficiencies of *Hideaki*, *Beck* and *Hutchinson* with respect to Claims 12 and 20.

Accordingly, Applicants respectfully request that the rejection of Claims 12 and 20 under 35 U.S.C. §103(a) to *Hideaki*, *Beck*, *Hutchinson* and *Schaupp* be withdrawn.

For the foregoing reasons, Applicants respectfully request reconsideration of the above-identified patent application and earnestly solicit an early allowance of same. In the event there remains any impediment to allowance of the claims that could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate such an interview with the undersigned.

Respectfully submitted,

K&L GATES LLP

BY _____

Robert M. Barrett
Reg. No. 30,142
Customer No.: 29157
Phone No.: 312-807-4204

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